

Applicants : Michael Wayne Graham and Robert Norman Rice  
Serial No. : 10/821,710  
Filed : April 8, 2004  
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In the Claims

Please replace the currently pending set of claims with the set of claims set forth below without prejudice under the provisions of 37 C.F.R. § 1.121:

1-43. (Cancelled)

44. (Previously presented) An isolated nucleic acid comprising: a first ribonucleotide (RNA) sequence of greater than 20 consecutive nucleotides which is identical in sequence to a region of a transcript of a target gene in a eukaryotic cell, and

    a second RNA sequence which is complementary to said first RNA sequence, and

an intron,

    wherein the first and second RNA sequences are in the same nucleic acid strand and are separated by a stuffer fragment which comprises a sequence of nucleotides.

45-76. (Cancelled)

77. (Previously presented) The nucleic acid molecule of claim 44, wherein the target gene is a viral gene.

78. (Previously presented) The nucleic acid molecule of claim 44, wherein the target gene is a nucleotide sequence of a viral pathogen of a plant.

79. (Previously presented) The nucleic acid molecule of claim 78, wherein the viral pathogen is a potyvirus, caulimovirus, badnavirus, geminivirus, reovirus, rhabdovirus, Bunyavirus, tospovirus, tenuivirus, tombusvirus, luteovirus, sobemovirus, bromovirus, cucomovirus, ilavivirus, alfamovirus, tobamovirus, tobaviruses, potexvirus or clostrovirus.

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80. (Previously presented) The nucleic acid molecule of claim 44, wherein the target gene is a nucleotide sequence of a viral pathogen of an animal cell.
81. (Previously presented) The nucleic acid molecule of claim 80, wherein the viral pathogen is a retrovirus.
82. (Previously presented) The nucleic acid molecule of claim 80, wherein the viral pathogen is an immuno deficiency virus.
83. (Previously presented) The nucleic acid molecule of claim 44, wherein the target gene is a nucleotide sequence of a single-stranded (+) RNA virus.
84. (Previously presented) The nucleic acid molecule of claim 44, wherein the target gene is a nucleotide sequence of a double-stranded DNA virus.
85. (Previously presented) The nucleic acid molecule of claim 44, wherein the target gene is a transgene in the eukaryotic cell.
86. (Previously presented) The nucleic acid molecule of claim 44, wherein the target gene is a member of a multigene family in the eukaryotic cell.
87. (Previously presented) The nucleic acid molecule of claim 44, wherein the target gene is an endogenous gene of the eukaryotic cell.
88. (Previously presented) The nucleic acid molecule of claim 44, wherein the eukaryotic cell is a plant cell.

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89. (Previously presented) The nucleic acid molecule of claim 88, wherein the plant is a monocotyledonous plant of a dicotyledonous plant.
90. (Previously presented) The nucleic acid molecule of claim 44, wherein the eukaryotic cell is an animal cell.
91. (Previously presented) The nucleic acid molecule of claim 90, wherein the animal is a vertebrate animal.
92. (Previously presented) The nucleic acid molecule of claim 90, wherein the animal is an invertebrate animal.
93. (Previously presented) The nucleic acid molecule of claim 90, wherein the animal is an aquatic animal.
94. (Previously presented) The nucleic acid molecule of claim 90, wherein the animal is an insect.
95. (Previously presented) The nucleic acid molecule of claim 90, wherein the animal is a fish.
96. (Previously presented) The nucleic acid molecule of claim 90, wherein the animal is an avian animal.
97. (Previously presented) The nucleic acid molecule of claim 90, wherein the animal is a mammal.
98. (Previously presented) The nucleic acid molecule of claim 44, wherein the eukaryotic cell is a human cell.
99. (Previously presented) The nucleic acid molecule of claim 44, wherein the region of the transcript corresponds to coding regions of the target gene.

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100. (Previously presented) The nucleic acid molecule of claim 44, wherein the region of the transcript corresponds to a 5'-or 3'-untranslated sequence of the target gene.
101. (Cancelled)
102. (Previously presented) The nucleic acid molecule of claim 44, wherein the stuffer fragment is a sequence of nucleotides 10-15 nucleotides in length, 50-100 nucleotides in length, or 100-500 nucleotides in length.
103. (Cancelled)
104. (Previously presented) The nucleic acid molecule of claim 44, wherein the total length of the nucleic acid molecules is no more than 2.0 kilobases.
105. (Previously presented) The nucleic acid molecule of claim 104, wherein the total length of the nucleic acid molecule is no more than 0.5 kilobases.
106. (Previously presented) The nucleic acid molecule of claim 44, which is naked RNA.
107. (Previously presented) The nucleic acid molecule of claim 44, which is encapsulated in a liposome.
108. (Previously presented) The nucleic acid molecule of claim 44, which is in a virus particle which is an attenuated virus or associated with a virus coat.
109. (Previously presented) The nucleic acid molecule of claim 44, which is comprised in a recombinant viral vector.

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110. (Previously presented) The nucleic acid molecule of claim 44, which is in a cell.
111. (Previously presented) A composition comprising a carrier, excipient or diluent acceptable for human or veterinary applications and the nucleic acid molecule of claim 44.
112. (Previously presented) A synthetic construct comprising a promoter which is operable in a eukaryotic cell, operably linked to a nucleotide sequence encoding the nucleic acid molecule of claim 44.
113. (Previously presented) The synthetic genetic construct of claim 112, which is in a eukaryotic cell.
- 114-141. (Cancelled)